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**AMENDMENTS TO THE CLAIMS**

**1-2. (Canceled)**

**3. (Currently Amended)** The method according to Claim 9 **[[1]]**, wherein said abnormality is an abnormally low parasympathetic activity in at least a portion of said subject's autonomic nervous system.

**4. (Currently Amended)** The method according to Claim 9 **[[1]]**, wherein said abnormality is an abnormally high parasympathetic activity in at least a portion of said subject's autonomic nervous system.

**5. (Currently Amended)** The method according to Claim 9 **[[1]]**, wherein said abnormality is an abnormally high sympathetic activity in at least a portion of said subject's autonomic nervous system.

**6. (Original)** The method according to Claim 5, wherein said parasympathetic activity in at least a portion of said subject's autonomic nervous system is normal.

**7. (Original)** The method according to Claim 5, wherein said parasympathetic activity in at least a portion of said subject's autonomic nervous system is abnormally low.

**8. (Original)** The method according to Claim 5, wherein said parasympathetic activity in at least a portion of said subject's autonomic nervous system is abnormally high.

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9. (Currently Amended) A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio to a ratio analogous to that observed in a health subject in a manner effective to treat said subject for said condition, wherein said parasympathetic activity/to sympathetic activity ratio is increased by increasing activity in at least one parasympathetic nerve fiber and inhibiting activity in at least one sympathetic nerve fiber, wherein said at least one sympathetic nerve fiber is a cardiac nerve fiber. The method according to Claim 1, wherein said condition is chosen from ~~cardiovascular diseases, neurodegenerative diseases, neuroinflammatory diseases, orthopedic diseases, lymphoproliferative diseases, autoimmune diseases, inflammatory diseases, infectious diseases, pulmonary diseases, transplant-related side effects, sleep disorders,~~ gastrointestinal disorders, endocrine disorders, ~~cardiac rhythm disorders,~~ genitourinary disorders, ~~cancer, fibrosis,~~ skin disorders, ~~aging associated diseases, aging associated conditions, autonomic dysregulation diseases, neurologic diseases, conditions related to pregnancy, fibrotic diseases,~~ conditions that cause hypoxia, conditions that cause hypercarbia, ~~conditions that cause hypercapnia,~~ conditions that cause acidosis, and Th-2 dominant conditions, wherein said condition is treated by applying electrical energy to at least one of the vagus nerve, cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, sympathetic nerve, sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, coccygeal ganglia, greater splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion, lumbar splanchnic nerves, and lesser splanchnic nerves. ~~conditions that cause acidemia, chronic lung disease, sudden death syndromes, vascular disorders, pediatric diseases and ocular diseases.~~

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**10-11. (Canceled)**

**12. (Original)** The method of Claim 9, wherein said method is employed to treat a neurodegenerative condition by applying electrical energy to at least one of the vagus nerve, cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, sympathetic nerve and sympathetic ganglia.

**13. (Currently Amended)** The method of Claim 9, wherein said method is employed to treat orthopedic ~~inflammatory~~ conditions by applying electrical energy to at least one of the vagus nerve, spinal nerves, postganglionic fibers to spinal nerves and sympathetic chain ganglia.

**14. (Currently Amended)** The method of Claim 9, wherein said method is employed to treat neuroinflammatory conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, ~~cardiac and pulmonary plexus~~, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**15. (Currently Amended)** The method of Claim 9, wherein said method is employed to treat lymphoproliferative conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, ~~cardiac and pulmonary plexus~~, greater splanchnic nerve, lesser

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splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**16. (Currently Amended)** The method of Claim 9, wherein said method is employed to treat inflammatory conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, ~~cardiac and pulmonary plexus~~, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**17. (Currently Amended)** The method of Claim 9, wherein said method is employed to treat infectious diseases by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, ~~cardiac and pulmonary plexus~~, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**18. (Canceled)**

**19. (Original)** The method of Claim 9, wherein said method is a method of treating gastrointestinal conditions by applying electrical energy to at least one of the vagus nerve, celiac plexus, hypogastric plexus, pelvic nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac plexus, pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

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20. **(Original)** The method of Claim 9, wherein said method is a method of treating endocrine disorders by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

21. **(Canceled)**

22. **(Original)** The method of Claim 9, wherein said method is a method of treating genitourinary conditions by applying electrical energy to at least one of the vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

23. **(Original)** The method of Claim 9, wherein said method is a method of treating skin conditions by applying electrical energy to at least one of the vagus nerve, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia and coccygeal ganglia.

24. **(Canceled)**

25. **(Original)** The method of Claim 9, wherein said method is a method of treating Th-2 dominant conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus,

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pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

**26. (Canceled)**

**27. (Original)** The method of Claim 9, wherein said method is a method of treating conditions that cause hypoxia, by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

**28. (Original)** The method of Claim 9, wherein said method is a method of treating conditions that cause hypercarbia, by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

**29. (Original)** The method of Claim 9, wherein said method is a method of treating conditions that cause acidosis by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary

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ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**30-31. (Canceled)**

**32. (Currently Amended)** The method according to Claim 9 **[[1]]**, wherein said parasympathetic activity/to sympathetic activity ratio is increased by increasing activity in at least one parasympathetic nerve fiber.

**33. (Original)** The method of Claim 32, wherein said at least one nerve fiber is a vagus nerve fiber.

**34-36. (Canceled)**

**37. (Currently Amended)** The method according to Claim 9 **[[1]]**, wherein increasing said activity in at least one parasympathetic nerve fiber is performed at the same time as inhibiting activity in at least one sympathetic nerve fiber.

**38. (Original)** The method according to Claim 37, wherein increasing said activity in at least one parasympathetic nerve fiber is performed before or after inhibiting activity in at least one sympathetic nerve fiber.

**39. (Currently Amended)** The method according to Claim 9 **[[1]]**, wherein an implanted electrostimulatory device is employed to electrically modulate said subject's autonomic nervous system.

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40. **(Currently Amended)** The method according to Claim 9 **[[1]]**, wherein said method further comprises pharmacologically modulating said at least a portion of said autonomic nervous system.

41. **(Original)** The method according to Claim 40, wherein said pharmacological modulation is performed at the same time as said electrical modulation.

42. **(Original)** The method according to Claim 40, wherein said pharmacological modulation is performed before or after said electrical modulation.

43. **(Original)** The method of Claim 40, wherein said pharmacological modulation is accomplished by the use of at least one pharmacological agent chosen from cholinergics; acetylcholinesterase inhibitors; magnesium; magnesium variants; catecholamines inhibitors; nicotine; muscarinics; beta-blockers and neurotoxins.

44. **(Original)** The method of Claim 40, wherein said at least one pharmacological agent is chosen from Bethanechol, Oxotremorine, Methacholine, Cevimeline; Edrophonium, Neostigmine, Donepezil, Tacrine, Echothiophate, Diisopropylfluorophosphate, Demecarium, Pralidoxime, Galanthamine, Tetraethyl pyrophosphate, Parathoin, Malathion, Isoflurophate, Metrifonate, Physostigmine, Rivastigmine, Abenonium acetylchol, Carbaryl acetylchol, Propoxur acetylchol, Aldicarb acetylchol, Muscarine, Pilocarpine, magnesium sulfate, botox and capsaicin.

45. **(Currently Amended)** A computer-readable medium comprising programming for electrically modulating at least a portion of a subject's autonomic nervous system according to Claim 9 **[[1]]**.

46. **(Currently Amended)** A kit comprising:

- (a) an electrostimulatory device; and
- (b) instructions for practicing the method of Claim 9 **[[1]]**.



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47. **(Original)** The kit according to Claim 46, wherein said electrostimulatory device is an implantable device.

48. **(Original)** The kit according to Claim 46, wherein said kit further comprises at least one pharmacological agent for modulating at least a portion of said autonomic nervous system.

49. **(Original)** The kit of Claim 48, wherein said at least one pharmacological agent is chosen from cholinergics; acetylcholinesterase inhibitors; magnesium; magnesium variants; catecholamines inhibitors; nicotine; muscarinics; beta-blockers and neurotoxins.

50. **(Original)** The kit of Claim 48, wherein said at least one pharmacological agent is chosen from Bethanechol, Oxotremorine, Methacholine, Cevimeline; Edrophonium, Neostigmine, Donepezil, Tacrine, Echothiophate, Diisopropylfluorophosphate, Demecarium, Pralidoxime, Galanthamine, Tetraethyl pyrophosphate, Parathoin, Malathion, Isoflurophate, Metrifonate, Physostigmine, Rivastigmine, Abenonium acetylchol, Carbaryl acetylchol, Propoxur acetylchol, Aldicarb acetylchol, Muscarine, Pilocarpine, magnesium sulfate, botox and capsaicin.

51. **(Previously Presented)** The kit according to Claim 46, further comprising an introducer needle for introducing said electrostimulatory device into the body of a subject.

52. **(Previously Presented)** The kit of Claim 46, further comprising a computer-readable medium according to Claim 45.

53. **(Previously Presented)** A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

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electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is employed to treat a neurodegenerative condition by applying electrical energy to at least one of the vagus nerve, cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, sympathetic nerve and sympathetic ganglia.

**54. (Previously Presented)** A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is employed to treat orthopedic conditions by applying electrical energy to at least one of the vagus nerve, spinal nerves, postganglionic fibers to spinal nerves and sympathetic chain ganglia.

**55. (Previously Presented)** A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is employed to treat neuroinflammatory conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary

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plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**56. (Previously Presented)** A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is employed to treat lymphoproliferative conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**57. (Previously Presented)** A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is employed to treat inflammatory conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary plexus,

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greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**58. (Previously Presented)** A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is employed to treat infectious diseases by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac and pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**59. (Previously Presented)** A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is a method of treating Th-2 dominant conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic

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nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**60. (Previously Presented)** A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is a method of treating conditions that cause hypoxia, by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**61. (Previously Presented)** A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is a method of treating conditions that cause hypercarbia, by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic

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nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**62. (Previously Presented)** A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio in a manner effective to treat said subject for said condition,

wherein said method is a method of treating conditions that cause acidosis by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**63. (Canceled)**

**64. (Currently Amended)** A method of treating a subject for a condition caused by an abnormality in said subject's autonomic nervous system, said method comprising:

electrically modulating at least a portion of said subject's autonomic nervous system to increase the parasympathetic activity/sympathetic activity ratio to a ratio analogous to that observed in a health subject in a manner effective to treat said subject for said condition, wherein said parasympathetic activity/to sympathetic activity ratio is increased by increasing activity in at least one parasympathetic nerve fiber and inhibiting activity in at least one sympathetic nerve fiber,

wherein said condition is chosen from cardiovascular diseases, neurodegenerative diseases, neuroinflammatory diseases, orthopedic diseases, lymphoproliferative diseases, ~~autoimmune diseases~~, inflammatory diseases, infectious

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diseases, ~~pulmonary diseases, transplant-related side effects, sleep disorders,~~  
gastrointestinal disorders, endocrine disorders, ~~cardiac rhythm disorders,~~  
genitourinary disorders, ~~cancer, fibrosis,~~ skin disorders, ~~aging-associated diseases,~~  
~~aging-associated conditions, autonomic dysregulation diseases, neurologic~~  
~~diseases, conditions related to pregnancy, fibrotic diseases,~~ conditions that cause  
hypoxia, conditions that cause hypercarbia, ~~conditions that cause hypercapnia,~~  
conditions that cause acidosis, ~~conditions that cause acidemia, chronic lung~~  
~~disease, sudden death syndromes, vascular disorders, pediatric diseases and~~  
~~ocular diseases, Th-2 dominant conditions,~~

wherein said method is employed to treat a neurodegenerative condition by  
applying electrical energy to at least one of the vagus nerve, cranial nerve III, cranial  
nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular  
ganglion, otic ganglion, sympathetic nerve and sympathetic ganglia

wherein said method is further employed to treat a second condition by  
applying electrical energy to at least one of the vagus nerve, spinal nerves,  
postganglionic fibers to spinal nerves, sympathetic chain ganglia, cranial nerve III,  
cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion,  
submandibular ganglion, otic ganglion, cardiac plexus and pulmonary plexus, celiac  
plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, coccygeal  
ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion,  
celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

65. **(Currently Amended)** The method of Claim 64, wherein said method is  
further employed to treat orthopedic ~~inflammatory~~ conditions by applying electrical  
energy to at least one of the vagus nerve, spinal nerves, postganglionic fibers to spinal  
nerves and sympathetic chain ganglia.

66. **(Currently Amended)** The method of Claim 64, wherein said method is  
further employed to treat neuroinflammatory conditions by applying electrical energy to  
at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine  
ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac

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and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, ~~cardiac and pulmonary plexus~~, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**67. (Currently Amended)** The method of Claim 64, wherein said method is further employed to treat lymphoproliferative conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, ~~cardiac and pulmonary plexus~~, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**68. (Currently Amended)** The method of Claim 64, wherein said method is further employed to treat inflammatory conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, ~~cardiac and pulmonary plexus~~, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**69. (Currently Amended)** The method of Claim 64, wherein said method is further employed to treat infectious diseases by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac and pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic



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ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, ~~cardiac and pulmonary plexus~~, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**70. (Previously Presented)** The method of Claim 64, wherein said method is a method of treating gastrointestinal conditions by applying electrical energy to at least one of the vagus nerve, celiac plexus, hypogastric plexus, pelvic nerves, sympathetic chain ganglia, coccygeal ganglia, cardiac plexus, pulmonary plexus, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**71. (Previously Presented)** The method of Claim 64, wherein said method is a method of treating endocrine disorders by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**72. (Previously Presented)** The method of Claim 64, wherein said method is a method of treating genitourinary conditions by applying electrical energy to at least one of the vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

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**73. (Previously Presented)** The method of Claim 64, wherein said method is a method of treating skin conditions by applying electrical energy to at least one of the vagus nerve, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia and coccygeal ganglia.

**74. (Canceled)**

**75. (Previously Presented)** The method of Claim 64, wherein said method is a method of treating Th-2 dominant conditions by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**76. (Canceled)**

**77. (Previously Presented)** The method of Claim 64, wherein said method is a method of treating conditions that cause hypoxia, by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumbar splanchnic nerves.

**78. (Previously Presented)** The method of Claim 64, wherein said method is a method of treating conditions that cause hypercarbia, by applying electrical energy to at

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least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

**79. (Previously Presented)** The method of Claim 64, wherein said method is a method of treating conditions that cause acidosis by applying electrical energy to at least one of the cranial nerve III, cranial nerve VII, cranial nerve IX, sphenopalatine ganglion, ciliary ganglion, submandibular ganglion, otic ganglion, vagus nerve, cardiac plexus, pulmonary plexus, celiac plexus, hypogastric plexus, pelvic nerves, cervical sympathetic ganglia, spinal nerves, postganglionic fibers to spinal nerves, sympathetic chain ganglia, coccygeal ganglia, greater splanchnic nerve, lesser splanchnic nerve, inferior mesenteric ganglion, celiac ganglion, superior mesenteric ganglion and lumber splanchnic nerves.

**80. (Canceled)**